

# NOTES ON THE ARTHROPOD FAUNA OF THE MUNDARING WEIR AREA

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A brief survey of the arthropod fauna of the area was carried out in November, 1955, with special reference to the occurrence of animals inside the pine forest and to the progressive disappearance of other forms in the marginal zones. The collecting was carried out at four distinct points:

1. In a mixed stand of pine and native scrub next to the entrance gate.
2. In the area along the path leading to the dam, about  $1\frac{1}{2}$  miles from the gate.
3. In a strip of native bush between the pine forest and the Helena River at the Helena bridge.
4. In an area of pure pine forest at the same locality.

The insect fauna showed a very clear reduction in the change from bush to pine plantation. Although the specimens secured were not, in the main, identified to species level, an apparent elimination of some large groups was marked, as was the increase in one group in the pine forest itself. Only two species of 'open air' insects were found in the pines, these being an Oenochromatid moth and an *Aedes* mosquito (*alboannulatus?*); however, this apparent paucity of insects might disappear after more lengthy collecting.

The typical structure of the litter fauna seemed, in a very crude analysis, to vary little from that of native bush, though a marked increase in the number of cockroaches was seen. The concentration of cockroaches was not as high as that reported by previous visitors to the area. The litter itself was very different in character from that of the normal plants, being very deep and moist, and of course coniferous, and a close examination of species present would perhaps reflect this difference.

In the border areas, some of the plant feeders, both on vegetation and on the ground, penetrated as far as the native vegetation persisted and the ground litter was not too dense. In these groups were Chrysomelid beetles and leaf-hoppers on one hand, and grasshoppers and crickets on the other. The predatoryrove beetles and Carab beetles were both found in the marginal zone, but none of these were located in the pine forest itself.

Other groups did not apparently penetrate this far. Predominant among these were the flower-feeding and plant-feeding forms, the aerial insects and some of the ground predators, particularly those hunting the open spaces between vegetated patches. Such forms as the mosquitoes, the Crane flies, and other smaller Diptera which seek shade during the day, were apparently not limited greatly in their distribution by the presence of the pines. Although

both ants and spiders were widespread in the area, none of these were collected.

In summary, then, it was seen that the invasion of pine forest by native arthropods was very limited, and apparently only those forms which could find an environment not grossly different from that of their normal surroundings penetrated any distance. However, it must be borne in mind that the scope of collection was, of necessity, very small and that many forms were almost certainly overlooked.

In the following lists:

n = numerous ( $\infty$ 20 or more).

f = few ( $\infty$ 10 — 20).

Numbers following name = numbers collected.

Numbers preceding name = locality number.

P = predator.

### 1. NATIVE BUSH

#### a. Acacia

3. Leaf Hoppers (*Hem. Membraeidae*) n.
3. Flea Beetles (*Col. Chrysomelidae Halticinae*) n.
3. Chafers (*Col. Scarabaeidae Melolonthinae*) 1.
3. Click Beetles (*Col. Elateridae*) 1.
3. Bees (*Hym. Apidae*) n.

#### b. Xanthorrhoea

3. Leaf Beetles (*Col. Chrysomelidae; Paropsis* sp.) 1.

#### c. Grevillea

3. Leaf Beetles (*Col. Chrysomelidae; 2 species*) n.
3. Soldier Beetles (*Col. Lampyridae; Heteromastix* sp.) n.
3. Bees — n.

#### d. Resting on vegetation

1. Scale Insect (*Hem. Coccidae ♀*) 1.
3. Mosquitoes (*Dipt. Culicidae, Aedes alboannulatus?*) n.
3. Crane Flies (*Dipt. Tipulidae*) 4.
3. Home Fly (*Plecopt. Leptoperlidae?*) 1 (2?) near stream.

#### e. In flight

3. Dragon Fly (*Od. Aeschnidae — Anax papuensis*) 3. P.
3. Painted Lady (*Lep. Nymphalidae; Pyrameis cardui kershawi*)  
2.
1. Cabbage White (*Lep. Pieridae; Pieris*) 1.
3. Hover Fly (*Dipt. Bombyliidae*) 1.

#### f. Open ground fauna

- 1, 2, 3. Crickets (*Orth. Gryllidae—nymphs*) n.
- 1, 2, 3. Long Horned Grasshoppers (*Orth. Tettigoniidae—nymphs*) n.
- 1, 2, 3. Short Horned Grasshoppers (*Orth. Ageriidae—nymphs*) n.
3. Tetrigid Grasshoppers (*Orth. Tetrigidae*) 1; near river edge.
3. Sand Bug (*Hem. Gelastoeoridae; Mononyx*) 2 nymphs P.
- 1, 2, 3. Rove Beetles (*Col. Staphylinidae*) n.
3. Chafer (*Co. Scarabaeidae Melolonthinae—Haplonycha*)  
1 collected by G. Cattermole.

**g. Under logs, litter, etc.**

- 1, 2, 3. Springtails (*Collembola*) n.
- 2, 3. Coekroaches (*Orth. Blattidae*; *Curilia* sp. and one other species) f.
- 1, 2, 3. Termites (*Isopt. Termitidae*) n.
- 1, 3. Ground Beetles (*Col. Carabidae*—*Broxinae*) 2. P.  
Also several Carab larvae. P.
- 1, 2, 3. Ground Weevil (*Col. Curculionidae*) f.
- 1, 2, 3. Centipedes (*Chilopoda Lithobiidae*  
*Geophilidae*  
*Scolopendridae*; *Connoccephalus* } n. P.
- 2, 3. Millipedes (*Diplopoda Juliformia* } n.  
*Polydesmoidca* }
- 2, 3. Scorpions (*Scorpionidea*; *Urodacus*) n. P.
- 1, 2, 3. Mites (*Acarina*).
2. Land Hoppers (*Amphipoda Talitridae*; *Talitrus*) 3.
- 1, 2, 3. Wood Lice (*Isopoda Oniscidae*) n.

**2. MIXED PINE / NATIVE BUSH**

**a. On native bushes, Acacia and Eucalyptus**

1. Leaf Hoppers (*Hem. Jassidae*) f.
1. Crane Fly (*Dipt. Tipulidae*) 1.
- 1, 2. Mosquitoes (*Dipt. Culicidae* — *Aedes alboannulatus?*) n.

**b. Ground fauna, in the open**

- 1, 2. Crickets (*Orth. Gryllidae*) n. nymphs.
- 1, 2. Long Horned Grasshoppers (*Orth. Tettigoniidae*) n. nymphs.
- 1, 2. Short Horned Grasshoppers (*Orth. Acridiidae*) n. nymphs.
- 1, 2. Rove Beetles (*Col. Staphylinidae*) f. P.

**c. Under litter**

- 1, 2. Springtails (*Collembola*) n.
- 1, 2. Termites (*Isopt. Termitidae*) n.
1. Ground Beetles (*Col. Carabidae*) 2 larvae. P.
- 1, 2. Centipedes (*Chilopoda*—*Lithobiidae* } n. P.  
*Scolopendridae* }
2. Millipedes (*Diplopoda*) f.
- 1, 2. Mites (*Acarina*) n.
- 1, 2. Scorpions (*Scorpionidea*; *Urodacus*) n. P.
2. Wood Lice (*Isopoda Oniscidae*) f.

**3. PINE FOREST**

**a. In the open**

4. Moth (*Lep. Oenochromatidae*; *Taxcotis macvens?*) 1.
- 2, 4. Mosquito (*Dipt. Culicidae*; *Aedes alboannulatus?*) f.

**b. Soil and Litter fauna**

- 2, 4. Springtails (*Collembola*; *Entomobryidae*, n.  
*Poduridae*, n.  
*Sminthuridae*, 1.
- 2, 4. Coekroaches (*Orth. Blattidae* - *Curilia* sp.?) n.
4. Centipedes (*Chilopoda Lithobiidae* } f. P.  
*Geophilidae* }
4. Mites (*Acarina*) n.
4. *Pauropoda*, 2.
2. Wood Lice (*Isopoda Oniscidae*) f.